THE

HORTICULTURIST.

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Hints on Grape Culture.—XXIII.

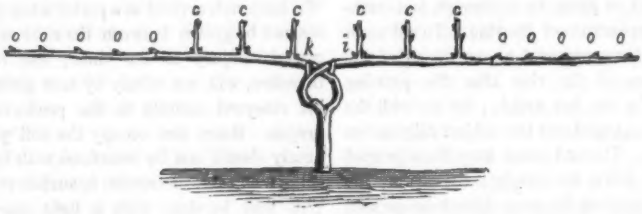
We have brought the vine up to the end of the third or the beginning of the fourth year. Let us pause for a moment, and examine the appearance of the vine. To aid us in this, we have prepared an engraving of the appearance of the vine after the pruning directed in our last article; for we wish the reader to comprehend the subject fully as we go along. The end canes have been pruned and laid down to complete the arms; the upright canes on the arms have been pruned to three buds; and the two middle canes, *i* and *k*, have been pruned to one bud. These operations completed, the vine will have the appearance indicated in the engraving, the buds on the under side of the arms having been rubbed out, as before directed. We think this makes the subject so plain that it can not fail to be understood. The engraving is drawn to a scale of half an inch to the foot.

Let us now turn our attention to the routine of culture needed during the fourth year. Let us suppose it is early spring. The vines have been pruned, and are in their winter quarters. The first thing to be done is to uncover the vines, (in case they have been covered,) and place them on the trellis. As we have remarked before, this should be done before the buds begin to swell. The next thing in order will be surface culture. We remarked at the beginning of these articles, that it would be better for the vines if the ground were given up exclusively to them: We have now arrived at a period when plants can not be grown between the rows without material injury to the vines; the reader, therefore, will act wisely by now giving up his vineyard entirely to the production of grapes. Roots that occupy the soil permanently should not be interfered with by any thing whatever. To return to surface culture. This may be done with a light one-horse plow, or, better, by a horse-hoe, substituting a cultivator tooth for the triangular cutter. We repeat our caution about plowing up the roots. Avoid it by all means. The roots of the vines, if our directions have been faithfully followed, will be found some four to six inches beneath the surface, according to the texture of the soil. The roots will generally be found deepest in light sandy or gravelly soils. Every cultivator should ascertain the depth of the surface roots of his vines, and regulate his plowing accordingly. Some portions of the soil, as along the line of the trellis, will not be reached by the plow; such portions should be broken up by a forked spade. To keep the surface of the soil open and free from weeds, there is no better implement than a small coulter harrow. It must be weighted according to circumstances. It should be used as often as weeds make their appearance, and while they are very small

It will be found advantageous to use this implement, also, after rains, as soon as the soil becomes a little dry. It should be a leading object with the vineyardist to keep the surface well pulverized and open during drought. A deeply prepared soil, well cultivated, seldom or never suffers from drought; never, certainly, to half the extent of poorly prepared soils. In this connection we must give some additional advice, which should have been offered before. There must be no unnecessary tramping back and forth through the vineyard. Never allow the soil of the vineyard to be trod upon, except to perform some necessary labor, or to dispense the hospitalities of the place. Be as careful of it, in this respect, as you would of the carpet on your best parlor.

Having looked after the culture of the soil, let us now see what is to be done with the vines. These being secured to the trellis, the next operation will consist in bending down the ends of the arms. To do this, tie the arm to the wire at the first *o*, and bend down the remainder of the arm in the same manner as the first portion was bent down. When the new shoots have grown two or three inches, the arm is to be tied in its place on the lower wire. As soon as the buds begin to swell on the spurs, the middle buds must be rubbed out, and the top and lower ones allowed to grow. If by any accident the top bud should have been destroyed, retain the two lower ones. If both the upper buds should have been lost, there is still the base bud to fall back upon. In the latter case, there will often two buds start from the base, but it is not desirable to keep more than one base bud in the system we are now describing. As a general thing, however, there will be the three buds first described, and they must be treated according to directions, which will give two shoots from each spur. From the short spurs, *i* and *k*, there will be a single shoot each. These two shoots should be carried up on the back of the trellis. We have now growing one shoot from each of the buds *o*, two shoots from the long spurs *c*, and one shoot each from the short spurs *i* and *k*. All other growth must be rubbed out.

Let us next see what is to be done in the way of summer pruning. The shoots from the buds *o* are to have their laterals pinched in as heretofore directed for new shoots, and in August the shoots themselves are to be stopped by pinching out the ends, as also heretofore directed. The shoots from the



long spurs, *c*, are to be stopped just before reaching the third wire, and the laterals pinched in as usual. It will be seen that we do not stop the shoots immediately above the fruit. The practice of short stopping is too often carried to excess even in the grapery. In the vineyard, it is often attended with disastrous results, especially in inexperienced hands. The reason of this will be treated of by itself. It must be understood that the shoots are not to be allowed to grow beyond the third wire, and then pinched back; but they are to be stopped just before reaching the third wire, by pinching off the end, so as to cause as little check as possible to the action of the roots. The laterals will now start with increased vigor, and at each pinching of these an additional leaf must be left. The shoots from the lower buds may be allowed a little additional freedom, but they

must not be allowed to grow so as to interfere with the upper arms. The moderate shading of the upper arms by the leaves will do no harm.

The shoots from the short spurs, *i* and *k*, should be carried up on the back of the trellis, so as to be as much as possible out of the way. The laterals of these shoots may be pinched in, but in other respects they are to be left to grow as they will, without stopping. They are the safety-valves of the vine.

A few words may be added in regard to the quantity of fruit the vines may now bear. One bunch of grapes may be left on each of the shoots proceeding from the buds marked *o*. The upper buds on the long spurs, *c*, may be allowed to carry two bunches each; but the fruit that shows on the shoots proceeding from the lower buds on these spurs must be removed. The strength of these must be saved for fruit next year. The shoots of the short spurs, *i* and *k*, may be allowed to carry all the fruit they set. The fruit, however, will be better if the bunches are reduced to two on each shoot. We shall thus have twenty-six bunches of grapes from each vine during the fourth summer. More could be taken, but not with benefit to the vine, which will require another season for its full development.

HORTICULTURAL GOSSIP.

BY AN OLD CONTRIBUTOR, CLINTON, N. Y.

Mr. Editor:—Will you allow an old contributor to gossip awhile, in easy gown and slippers, with you and your readers? Under such a license, my words will have more freedom than they would in a formal essay.

What are good manners, in visiting a friend's garden? I have a neighbor who comes to see me several times a year, and whose visits I have hardly grace enough to endure. He has a smattering of horticultural knowledge, and he owns a country place, which he thinks is the very pink of perfection. "Now, I want you to go around and show me your grounds." Well, while I am trying to do so, he struts loftily, and talks about his own establishment, his English gardener, and his fast horses. Am I pointing out a fine specimen of the European or Siberian Silver Fir, he breaks in, "Oh, yes, I've several like them, only bigger; the pedlar of whom I got mine said they called them Balsams down in the swamp." Show him a Delaware or Rebecca grape, and he will admit they are tolerably good, but smaller and less fragrant than the Charter Oak and Northern Muscadine. A Japan Lily is passable, but then he has several other kinds, yellow, red, and white, lots of them! And so he runs on about *his* arbors, and *his* terraces, and *his* serpentine walks, and *his* statues of Venus and Neptune, and much other gimcrackery with which his pretentious place abounds. When he has sufficiently disparaged my place, and lauded his own, he goes home. I pray you, Mr. Editor, happen this way some time, and bring him down from his high horse.

A friend of mine, who is a fond planter of trees, has also a thorn in his flesh. It is a lady! She looketh not well to the ways of her household, but, neglecting her children, goeth about to talk of cats, dogs, horses, and flowers. Her mind is good, so far as it goes, but its scope is not wide. When she visits my friend, she never notices the rare trees which are his joy and pride, nor the velvet lawn, nor the antique vases, nor the fine outlooks into the surrounding scenery, which he has opened with so much artistic skill. But she begins at once to harrass him with talk about some petty detail, generally of her own experience. Now, she chippers away about sowing flower-seeds; then, how to cure a sick cat, how to strike cuttings, how to poultice a felon, how to save seeds; and she dwells on each point with a minuteness and long repeti-

tion, that—that "beats the Dutch." And all this sort of talk while walking through one of the finest gardens in all this region of country! She finishes up each visit by begging a few cuttings and a few seeds, and then, with a courtesy and a bewitching smile, bids adieu.

The question now returns, Mr. Editor, which is the proper way to make a horticultural visit? 'Strikes me, I should not make it an occasion for disparaging my friend's garden and extolling my own. It is not best to waste his time, and tax his patience, by chattering away about trivial details, or such matters as can just as well be discussed elsewhere. I should leave my garden at home, when I go to visit his. Instead of pulling at his button-hole, and engrossing the time with my sage observations, I should listen to him, in a receptive state of mind, desirous to see and learn, and enjoy all I can. And when my visit is ended, I should thank him for the pleasure he has afforded me.

And, sir, I gladly testify that I *do* receive such visits, now and then. Some persons show at once that they appreciate what they see. Instead of criticising, or making invidious comparisons, they heartily admire, and express their pleasure without stint. Others walk along more quietly, confessing their ignorance of gardening in its higher forms, but begging me to tell them the name of this and that, and the origin of the other; and they receive all that they see and hear with evident satisfaction. It is a great pleasure to receive such guests.

And now that we are on this subject, let me add a few words more on another branch of it. The middle of the day is not a desirable time for visiting gardens; for then the light falls vertically, and the shadows of trees and shrubs are almost imperceptible. If, too, it is mid-summer, the heat of noon is so intense that the visitor puffs and sweats, and feels that he is pursuing enjoyment under difficulties. Half the poetry of a garden is lost by viewing it under a broiling sun. Go, rather, in the morning, when the dew is sparkling on tree and grass, and when the birds are musical. Or go at evening, when the shadows fall aslant, when the heat has abated, and the cool air is fragrant.

Our gossip must touch upon another matter. Mention was made in one of your former volumes, of the improvements then in progress in the grounds of Hamilton College, located here. Since then, some additions have been made to the list of trees and shrubs. The trees have been arranged chiefly with a view to their landscape effects, though a classification in families has not been wholly lost sight of. Among the Elms, Maples, Lindens, Oaks, Beeches, etc., there are five or six varieties of each species. A Pinetum has been begun, in which a considerable number of the conifers, hardy in this climate, may already be found. Here is a list:

Pinus strobus, P. sylvestris, P. Austriaca, P. pumilio, P. excelsa, P. Cembra, P. Benthamiana, P. ponderosa.

Abies excelsa, A. nigra, A. alba, A. Canadensis, A. compacta, A. Cephalonica.

Picea balsamea, P. pectinata, P. Pichta.

Juniperus succica, J. Virginiana, J. sinensis.

Thuja occidentalis, T. Siberica, T. Hoveyi.

Taxus Canadensis, T. baccata, T. elegantissima.

Thujopsis borealis.

Not a few of these trees were presented to the College by intelligent horticulturists in different parts of the country. Among the donors are such worthy names as Charles Downing, of Newburgh, Henry Winthrop Sargent, of Fishkill Landing; Messrs. Ellwanger and Barry, of Rochester; and Hovey & Co., of Boston. This collection of trees is comparatively small as yet, but, as a beginning, it is highly prized by the College and its friends.

[We are happy to hear from you again. It is evidence not only of better health, but that you have not forgotten us. So may it always be. You may gossip not only *a* while, but *all* the while; a privilege we do not extend to every body. You have hit upon a suggestive theme, and painted it in life-like colors. We are sorry to say that just such ill-bred persons do own country places, but how painfully plain it is that

they were not educated for them; that they are strangely out of place; that neither is fitted for the other, any more than jewels are fitted to adorn animated pork. Oh that these men would learn the wisdom of silence! Few things are more painfully annoying than a visit from a man full of pompous pretension: he will neither enjoy any thing himself, nor let you. No matter how well grown or beautiful your plants may be, he always has something better at home. No word of praise or commendation ever escapes his lips, be it ever so well deserved. He runs his round of stereotyped depreciation, departs, and you feel as if you had been relieved of some hateful nightmare. We can remember with satisfaction more than once having knocked the stilts from under such men, and precipitated them to their proper level. We never fail to do it when we can; for a man has no right, moral or otherwise, to be unamiable at his friend's house. The world is no better for such men, but quite the reverse. We would reason thus with them: when you enter a friend's garden, do try to leave at the gate all egotism and selfishness, and resolve to please and be pleased. Remember with how much care your friend has collected his plants about him, and how much enjoyment he finds in them. Remember that they are all beautiful, some more, some less; this you can not help *feeling*, though you may not acknowledge it. Remember, above all, that they are the handiwork of Infinite Goodness, and speak not contemptuously of them, even to heighten the praises of your own. If you want to hear your own plants praised, ask your friend to come and see them; and if he is barely a sensible man, with a heart alive to the proprieties of life, and a nice appreciation of the beauties of nature, you will hear enough to make a reasonable and modest man content. For how much better it is that another should praise us than that we should praise ourselves!

Having disposed of the man, what shall we do with the woman? We fear we shall have to put on a pair of soft kid gloves. The treatment in this case must be gentle and soothing. When she begins to talk about cats and dogs, tell her, as she seems to be so very fond of them, you will send her a good litter, which you must forthwith do. Send a fresh litter every time she broaches the subject, and in time she will take the hint, and carefully avoid the mention of cats and dogs in your presence. In like manner treat other inapposite subjects. For instance, when she talks about a poultice for a felon, say to her, "Well, well; but is that poultice good for the Black Knot?" You will be able to manage her in this way. Fortunately, there are only about three such women in the world; and the rest of them are such dear delightful creatures, and love flowers so fondly, flitting about among them like butterflies, sucking sweets from each, that you can well afford to bear with the three that are full of cats, and dogs, and felons, and what not.

You have a just and proper conception of what a horticultural visit ought to be. When we make such visits, we go for the purpose of learning and enjoyment, and to make our friends as happy as may be. Horticultural intercourse often is, and always might be made, a source of the purest enjoyment. There is something in horticulture that tends strongly to develop and expand man's social qualities; the only drawbacks to this are the selfishness and egotism of unregenerate human nature. What a delightful thing it is to receive a visit from one who knows the full value and beauty of your plants, and has the manliness to say so! We see you understand this perfectly. You are altogether right in regard to the best time to visit the garden. It is surprising how few think of this; and yet a whole chapter might be written about it.—We are glad to hear that the improvement of the grounds of Hamilton College is still progressing. The college, we suspect, is very much indebted to you for this. There are no doubt some among our readers who will esteem it a privilege to present some valuable tree to the college. They could not rear to themselves a nobler monument.—Ed.]

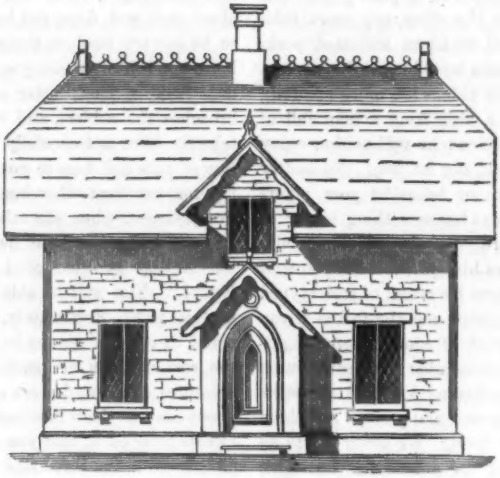


Fig. 1.—Front Elevation.

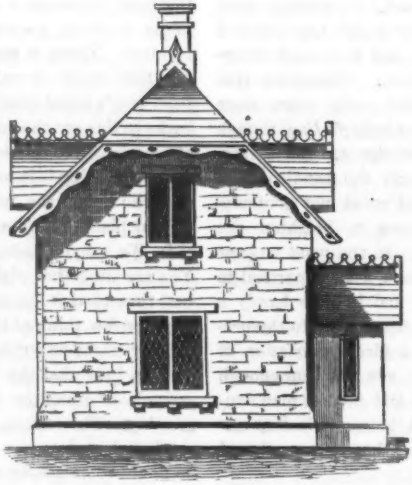


Fig. 2.—End Elevation.

COUNTRY HOMES.

BY GEO. E. WOODWARD, ARCHITECT, NO. 37 PARK ROW, NEW YORK.

RURAL ARCHITECTURE has always been one of the leading features of the HORTICULTURIST, and from the publication of the first volume, some seventeen years ago, down to the present time, this subject has scarcely been allowed to remain quiet. In this respect, as well as in all other matters of rural art, no writer has been so thoroughly successful in revolutionizing and educating the public taste as the late A. J. Downing. He has laid a foundation broad and deep, the influence of which can not be over-estimated. The Greek temple and the ill-proportioned box have given place to more convenient forms; the beauty of proportion, ornament, light, shadow, and color, have succeeded the clumsy outlines and glaring aspect which characterized our country homes. We build to-day, for less money, more attractive and beautiful dwellings, and surround them with more comforts and enjoyments than we should have done if it had not been for Mr. Downing and the HORTICULTURIST.

FIG. 3.—First Floor.

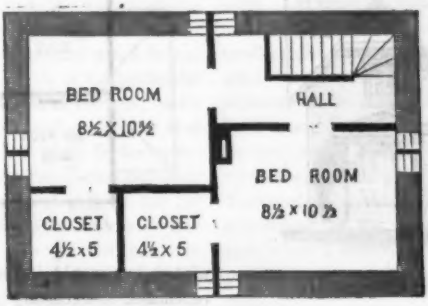


FIG. 4.—Second Floor.

This month we present the first of a

series of designs which will be continued in future numbers, intended to embrace all the various combinations of arrangement, style, and price, but to be more particularly devoted to plans and elevations hitherto almost entirely neglected by most writers on this subject; that is, low-priced houses, together with the different modes of construction. Comfortable, convenient, tasteful country homes, at prices within the reach of all, has long been a careful study with us, and we propose to show that it is even more economical to build in good taste than to build in any other manner; that such houses will rent for more money, and sell for more money, and that they are better worth owning and living in.

Fig. 5.—Front Elevation.

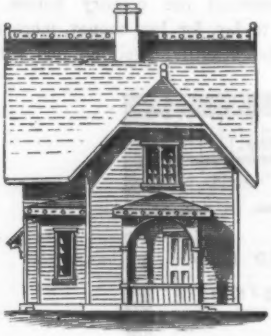


Fig. 6.—Side Elevation.

The first design (Figs. 1, 2) is intended for a laborer's cottage about to be erected on the grounds connected with a fine estate on the western slope of the Palisades in New Jersey, is to be built of rough stone, plainly finished,

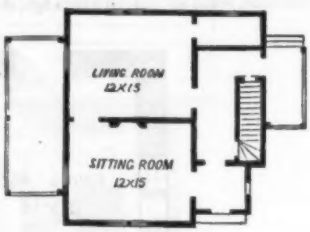


Fig. 7.—First Floor.

and estimated to cost about $450. It is 16 by 24 feet outside, having a living-room with bed-room on the first floor, (Fig. 3,) a large pantry, stairway, etc., and a fine cellar below. The second floor (Fig. 4) has two bed-rooms, well lighted and ventilated, and large closets to each. This size will admit of several different arrangements; the rear door might open out from the pantry, and afford more convenient access to the cellar stairs, to get in heavy articles, and shut out some cold in winter, but would interfere with the fine ventilation so necessary in summer to a generally heated apartment, as a kitchen, dining, and living-room combined. A porch might be placed over the rear door, or better still, at a small additional expense, a summer-kitchen and wood-house might be added. A house of this accommodation

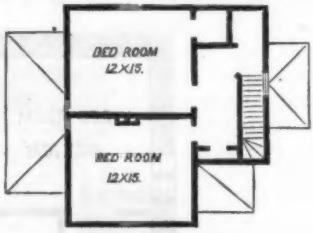


Fig. 8.—Second Floor.

is usually the first one put up by settlers on the western prairies. They are built with a balloon frame, which is stronger and forty per cent. cheaper than the mortice and tenon frame; and where lumber and labor are cheap, we have seen them built for $250. This is for a plain straight ridge roof and without porch. The elevations as shown, give a greater variety, and a house thus constructed may afterwards become a very pretty portion of a larger and more expensive structure.

The second design (Fig. 5) is for a frame building giving more variety of outline. The plan (Fig. 7) separates the sitting room from the kitchen and dining room, and insures more privacy. There is also a greater abundance of closets, though smaller. One of the bed rooms above might be divided into two, and thus increase accommodation. A portion of the cellar may also be finished for a kitchen, and the living room used as a dining room. This plan admits of future additions being made without destroying the harmony or proportion of the building. To one of moderate means, such a mode of building presents some attractions, as it affords a house for immediate wants, to which additions may be made as one's means increase. Such houses, if tastefully furnished and embellished with suitable surroundings, as neat and well-kept grounds, fine trees, shrubbery, flowers, and climbing vines, will always attract more attention and admiration than the uninviting aspect of many more expensive structures. Money tastefully expended in this manner will always yield gratifying results. This last design can be executed for about $800; and in many localities can be built for less.

THE VERBENA DISEASE.

BY PETER HENDERSON, JERSEY CITY, N. J.

Mr. Editor,—As one of the "committee" whom you have called upon to report on the disease now committing such ravages on the Verbena, I think I can best do so by giving my own routine of culture, which I am happy to say has thus far exempted me almost entirely from the plague; this season entirely so. Understand me, I do not go so far as to say that it is my particular mode of culture that has saved me; there may be something in soil or locality that has more to do with it than in the treatment of the plant. Yet I can not help thinking that my mode of culture has got something to do with it, for the reason that I do not know of a single florist in my neighborhood whose stock is not infected with it more or less, and in most cases completely destroyed; and these, too, numbering scores within the radius of a few miles, having in many cases identically the same soil, and when in some cases the distance is only a few hundred yards; certainly also the same climate.

To begin, then. The plants that we use for stock are struck in spring, the cuttings taken in all cases from the most vigorous plants. When planted out in May, they are usually not more than five or six inches high, containing nothing but young tops and young roots, and as nearly resemble a seedling plant as may be. This point I consider very important, as in too many instances, in the hurry of spring business, florists neglect the laying aside of plants for next year's stock until the hurry is over, when there is nothing left but the refuse. This used to be my own practice, until the appearance of the disease some six years ago, when I considered the necessity imperatively to require a more healthy progeny.

Another requirement is, that we never plant out twice successively on the same soil, and, if possible, use fresh ground that has not been recently cultivated.

In October we take off the cuttings preparatory for winter stock, choosing again

only the youngest and softest shoots. These root in the cutting bench—in which there is a slight bottom heat—in eight or ten days; they are then at once potted off, and carefully treated by shading and watering until they are able to bear the sun and air. These are the plants from which we take our stock for spring sales during the winter and early spring months. Sometimes, when we get a large stock of old plants to take cuttings from, we throw them away, the winter and spring struck plants being much finer.

In our winter treatment we are particularly careful to avoid extremes of temperature: average at night, 40°; in daytime, 55°. The plants are set on benches covered with sand or sawdust, from one to two feet from the glass, great care being taken that they never get too dry; and giving abundance of air at all times when the weather will permit. This, then, is our whole mode of proceeding in the culture of the Verbena. Very simple it is, but requiring to be steadily adhered to.

And now let me state what I consider may be the predisposing causes that lead to a generation of the disease. In a paper sent to the *Gardener's Monthly* a year or two ago, I gave it as my opinion that the sudden checking of the sap by our early fall frosts was possibly the cause; and although that idea is now somewhat modified by further experience, I still think that the checking of the sap, by the plant being allowed to get too dry, by frost, by the attacks of green fly, or any other cause, may tend to dispose the plant to its attacks. Such we know to be one of the causes, if not the sole cause, of the attacks of the common white mildew. Dearly purchased experience has shown us this in too many instances. I will relate one or two. In a greenhouse filled with Hybrid Perpetual Roses—seventy feet long—the top sashes were let down about two feet in a cold day in March, when the Roses were in full leaf; the leaves were observed to very slightly touched with frost; not enough, apparently, to injure the plants, but in two weeks after, *under every sash that had been let down*, the plants were infected with mildew, while not a plant was touched in any other part of the house. The conclusion was inevitable, that the mildew was caused by the stoppage of the sap vessels by the frost. In this case, the cuttings taken from the plants, on being planted out, regained their wonted health the next season. But a similar accident once occurring to a large lot of Souvenir de la Malmaison, though it is now more than eight years ago, I have never been able to eradicate the disease from that variety since, proving that some varieties are better able to throw off the disease than others. Another predisposing cause to mildew on Roses, when grown in pots, is in the drying of the mould in the pots. Once let the pots get dry enough, so that the leaves will "flag"—sap get checked—and rest assured that every variety disposed to mildew will show it in a few days after such treatment.

But I have wandered a little from my subject, and given you a dissertation on "white" mildew together with "black rust." Let the analogous nature of the diseases be my excuse.

In regard to remedies, when plants are affected by either of these diseases, if once sufficiently severe to penetrate the cellular structure of the stem, remedies are as hopeless as if applied to a man in the last stages of consumption. True, the plants may not die, but they are hopeless invalids for that season, if not for more.

I am glad, Mr. Editor, that you have called upon me to report on this matter, as I have understood that there is quite a number of our fraternity who do not hesitate to say that I have some "secret," some hocus-pocus, by which I have so long kept the plague from my door. If I have any secrets on this matter, they are all revealed in these pages. That I am not apt to withhold information, even when I do possess it, I think you as well as many others, will endorse.

It has given me much pleasure during the whole course of my business career, to give all the information I possessed in relation to horticultural matters, and I know I have

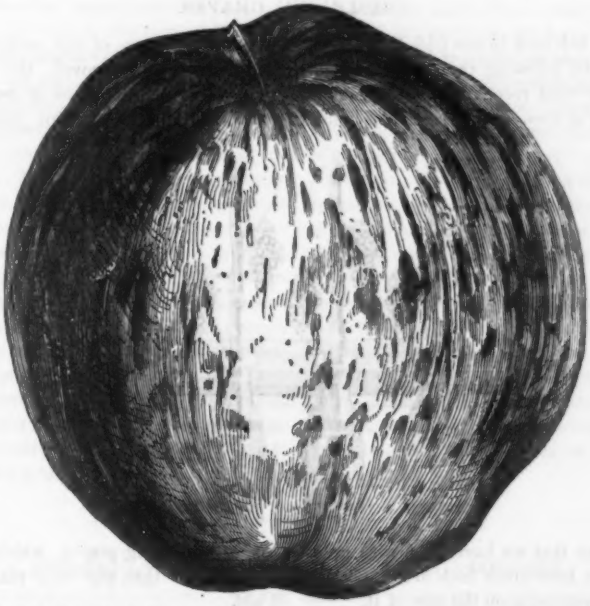
gained by the practice. No one can have a more thorough contempt than I have for the man who would withhold information, thinking that his business would be benefited thereby.

I trust the other members of the "committee," if they have not already, will shortly give us their report, as what I have been able to say is by no means conclusive or satisfactory.

[Up to the present time you are the only one of the "committee" heard from. We hope the others will report in good time. The "black rust" or mildew has become a very serious matter, and it is very important, especially to propagators, that its cause and nature should be understood. Having escaped its ravages, we have had no opportunity of studying it closely; we can only speak of it as we have seen it during visits among propagators. We find, as a general thing, that the older varieties of Verbenas are the last to be attacked, the least robust and light-colored ones being the first. The Verbena, owing to its usefulness, and consequent popularity, has been crossed and pampered to a high degree; it has hence, in a measure, become constitutionally delicate, and to that extent more liable to the attacks of disease. It becomes very important, therefore, to select propagating stock only from plants that are in the best condition. That the mode of watering the young plants has much to do with the virulence if not the development of the disease, we have not the least doubt. The reader can now form some idea of our theory, which we shall develop fully by and by. In the meantime we wait to hear from other members of that "committee."—Ed.]

THE GRANITE BEAUTY APPLE.

BY THE EDITOR.

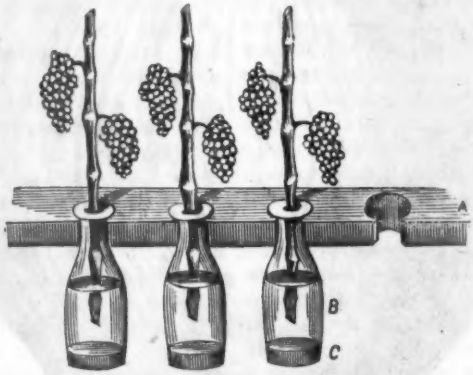


We are indebted to Mr. Z. Breed, of Weare, N. H., for a box of the Granite Beauty apple, with the accompanying illustration. The apple has been described before, but will

probably be new to most of our readers. Mr. Weare informs us, "That years ago, when our grandfathers and grandmothers first came to seek them a home in the wilds of New Hampshire, their only mode of conveyance from place to place was on horseback. The grandmother of the family that lived on the farm I now occupy, was one day returning from a visit to her old home and friends, mounted on a slow horse; a long ride was before her, and wishing to accomplish it in one day, she felt the necessity of using means to increase the speed of her pony. Looking about for something that would suit her purpose, she spied by the way side a slender 'stripling' of an apple tree, which she plucked, *roots and all*, and came on her way rejoicing. Soon after arriving home, it being the season for setting out trees, and the subject of planting an orchard decided upon, she bethought her of her riding stick; this she took into the little orchard 'to be,' and with it finished a row of trees, just transplanted. It lived, flourished, and from it were taken the scions that produced these apples. The tree is exceedingly hardy, naturally low in 'stature,' flourishes best in a rich gravelly soil, and bears *every year*. They are good for cooking, early, and with good care, keep till into March." He further says, that Mr. Wilder esteems it "an excellent winter fruit, large, handsome, and good," and that Mr. Downing has expressed an opinion of similar purport. The apple is large and handsome, with a very tender flesh and peculiar flavor. We consider it a good apple, but not best. Its size, appearance, and keeping qualities may render it a good market fruit. To judge from a branch of the tree with fruit on it, we should say it was very productive.

PRESERVING GRAPES.

We are indebted to our friend, C. Marié, Esq., for the following translation, describing a somewhat recent French method of preserving grapes. As it resembles somewhat a plan that we have tried with great success, we have much faith in it. Besides this, it is reasonable on the face of it.



"Mr. Rose Charmeux, of Thomery, (one of the best growers of Chasselas grapes at Thomery, and son of the celebrated Mr. Charmeux who improved the Thomery mode of training vines, now in general use,) has contrived, within a few years, a new way of preserving grapes, which has succeeded better than any other plan hitherto in use.

"Contrive a place in a properly arranged fruit-house. Fasten against the sides a

series of small racks similar to those in the engraving, and place one above the other at about 12 inches apart. Place in each one of the notches, A, of these racks a small bottle, B, three quarters full of water, to which must be added a small quantity of powdered charcoal, C, to keep the water sweet.

"Gather the grapes at the usual time, selecting the handsomest and most perfect bunches, and those which have been thinned out. Cut those branches which bear two bunches, and place the lower end of the branch in a bottle, as shown in the engraving. These grapes must be examined every week, and the imperfect berries taken off with scissors. Chloride of calcium is to be used to absorb the dampness of the atmosphere.

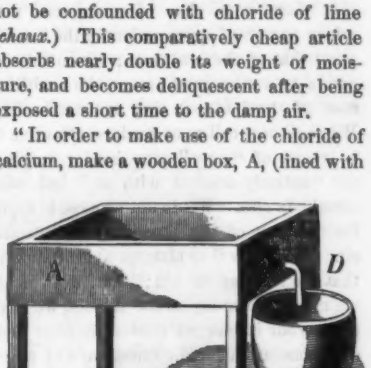
"Mr. Rose Charmeux preserves the largest portion of his Chasselas, and even his Frankenthal (Black Hamburgh) grapes until the end of April. This method is so successful that the grapes are as plump and the stems as green as when taken from the vine.

"The following is the plan of Dubreuil for using the chloride of calcium:

"Until now the only means used to get rid of the dampness which arises from the fruit in the Fruitery, has been to ventilate the fruitery during ten days before closing up the house. This plan has serious objections. In the first place, it causes the temperature of the room to become the same as that of the open air, which often injures the fruit. It also introduces air less charged with carbonic acid, which is quite as objectionable; besides it is exposed to the light, which hastens its maturity. Besides, this method can only be used in dry weather, and when the temperature is above the freezing point. Now as this is seldom the case in winter time, the fruit is consequently subjected to the dampness of the fruitery.

"To overcome this difficulty, we recommend to use chloride of calcium, which must not be confounded with chloride of lime (*chaux.*) This comparatively cheap article absorbs nearly double its weight of moisture, and becomes deliquescent after being exposed a short time to the damp air.

"In order to make use of the chloride of calcium, make a wooden box, A, (lined with



lead, as in the engraving,) 20 inches square and 4 inches deep, which must be raised about 16 inches from the floor, on a small stand, B, inclined a little at one side at C; in the middle of the inclined side place a spout, D. This apparatus being placed in the fruitery, put in it about 3 inches deep of chloride of calcium, very dry and porous. As it melts, the liquid runs out through the spout into a stone jar underneath it. If all the chloride of calcium is melted before all the fruit is taken out, you must renew it. About 40 pounds are sufficient to keep a fruitery dry, used at three different times.

"The liquid which is obtained by this plan should be carefully kept in stone jars, and tightly covered until the next fruit season. Then, when the fruitery is again filled, pour the liquid into an iron pot and evaporate it. It is then again fit for use the next year."

INTERIOR VIEW OF THE "BRIGHT NUT" BORDERS.

BY FOX MEADOW.

A WRITER in sacred history says, "There is nothing new under the sun;" but, Mr. Editor, if we are to credit the wonderful stories of gardeners in general, they dis-

cover and invent lots of new things every day in the week, and we are convinced, sir, that there is no class of commercial men whose powers of appreciation for the "new" excel that of the gardeners; for on this depends, to a very great extent, the healthfulness of the business they are conducting. We shall now call your readers' attention to a system of "new" vine border making, not "entirely original with us," but with somebody else. We do not propose to argue the question of the possibility of introducing the "new" to attempt a refutation of that "wise man of old;" but, from what we may have to say on the subject, we shall leave your intelligent readers to form their own conclusions. The question was asked in our last article, Are Mr. Bright's "Inside, Divided, Detached Borders," being pulled down as failures in the vicinity of Philadelphia? To this we emphatically say, No! Many persons, however, because Mr. Bright has simply directed *how* these borders should be put up, have called them his! and because the borders in question have failed to swell out the luscious grapes as the old-fashioned borders have done, they blame poor Mr. Bright for it!

We know a gentleman in Philadelphia, who, being struck with the ingenuity of the "new" borders, in which "we have perfect control of the vine's roots," erected one of these, or rather got Mr. Bright to direct the construction of it, but has since torn the whole fabric down; the trouble being this: through the small quantity of soil contained in the divided chambers, it became impossible for the parties growing the vines to keep them damp enough. The house in question was heated by Mr. Bright putting the hot water pipes immediately over the little borders, which dried the poor vine's roots nearly to death. However, Mr. Bright, in his next experiment on *somebody else's vines*, intends to place these hot water pipes *under the border*, as this latter is the mode now adopted in England. We have made a little sketch of the "new" border people call "Bright's," (Fig. 1,) and illustrated it in a span-roofed house, but, of course, it is as applicable to the lean-to. In this sketch the reader will see how very nicely things are arranged; the border is detached from

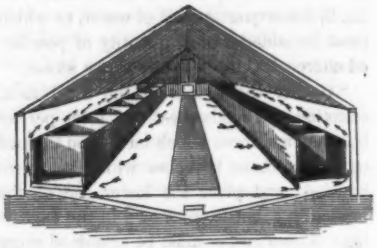


Fig. 1.

the ground of the house, and from the back wall of the house, and each vine has its own soil to devour, and can not encroach on its neighbor, who may not be possessed of such a voracious appetite. These little borders have air conductors running under them, so that the atmosphere of the house is circulated similar to that indicated by the arrows in the cut. The bottom of these borders are concreted and sloped, so that the drainage can run to a main drain placed in the center of the house; but, strange to relate, the gentleman in Philadelphia, who tore down this border, never could get water enough to the roots, to say nothing about running away in a drain!

The reader will now please observe Fig. 2. This is, in reality, a little model of an "Inside, Detached, Divided Border." Every thing "perfect" in this, Mr. Editor. Now we will just explain all about it, and we do hope your readers will note all the "new" features in it. First, then, it is detached from the front wall of the house; it is a "divided" border, and bottom heat is placed in it by circulating hot water. The top of this border has a curb stone hollowed out to hold water, as indicated by the arrows. Here, then, it will be seen, is a very complete system for furnishing the moisture to the vines so much spoken of by our friend Bright; and here is also the mode of arranging bottom heat, so essential for "forcing early grapes, or keeping late ones." Perhaps our readers will discover

where the essential difference is in the construction between figs. 1 and 2, and they may also wish to know if this is "new" as well.

If our memory serves us correctly, we visited Trentham, the Duke of Sutherland's, in the spring of 1844, and there we beheld houses were built, and among the rest your humble servant had one under his control, and Fig. 3 is an illustration of the house and border as built by Shaw. Perhaps, Mr. Editor, you or your readers will say that this is an "Inside, Detached, Divided Border;" but should you or they

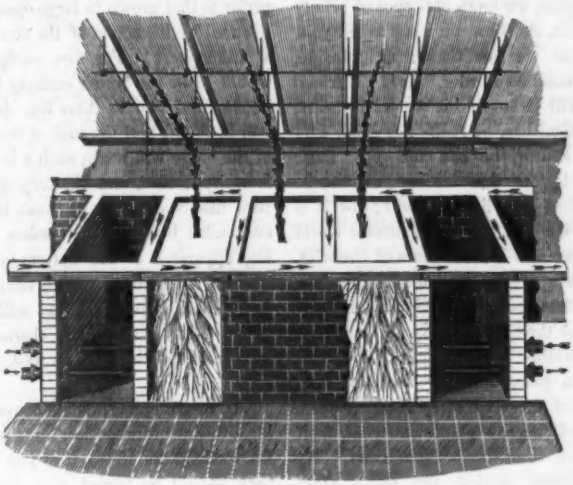


Fig. 2.

this little duck of a vine border! We are not prepared to say this was "entirely original" with Mr. Fleming; perhaps friend Bright would say it was not. This, however, we care nothing about. The border in question, and just as we represent it at Fig. 2, was there, and, for all we know, is there to-day.

In 1845–6, Mr. John Shaw, of Manchester, England, and a Landscape Gardener by profession, introduced to the attention of the horticulturists of Manchester and Liverpool, a very peculiar system of border making. It was claimed by this gentleman, that this border possessed all the real, genuine qualifications for vine growing; such, for instance, as the perfect ripening of the wood, perfect "control of the roots," because having perfect control of moisture; with, perhaps, a hundred other curious sorts of notions not worth talking about. Many of Mr. Shaw's

come to such a conclusion, why, of course, *we* can not help it. You know our old friend Chorlton, Mr. Editor, very well.

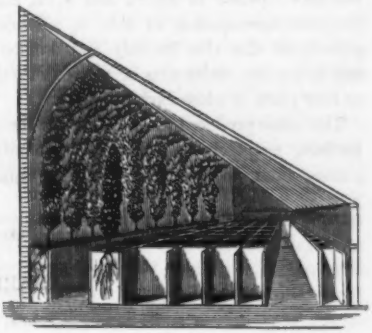


Fig. 3.

Now he is a man brought up in Manchester, if not a Manchester man, and I know the place where he served his apprenticeship

to the gardening business. It was one of those fine old places where the natural and artificial grandeur combined would make a man step gently on the ground; would bring his eyes riveted to a spot, and his heart burn within from some cause we know not! Yes, sir, in this dear old place, some years after friend Chorlton's boyish days were past, we knew this spot of beauty and grandeur, and now we want to tell your readers what we saw there: an "Inside, Divided, Detached Border," sir!! If friend Chorlton still lives—if his old warm heart, full of horticulture, be really not dead, why then, Mr. Editor, he can tell you more about this border than we can, and we do hope, sir, that he will *speak out;* for it is *experience* we and the horticultural world want to hear, and not babblers of theories. Now, readers of the HORTICULTURIST, our experience has been, in relation to all these borders, that they serve a very good purpose for getting rather better grapes than can be produced in pots, and that they are very well adapted for *very early* forcing, when it is intended to grow plants one year, fruit the next, and then throw them away. We have, however, carried the same vines through three fruiting seasons; but all gardeners who have had any experience worth calling experience in forcing early grapes, know that, by forcing very early, the crop becomes ripened in March and April, and that the consequence of this is, a *second* growth of the vine in July and August; and hence the uselessness of vines in three or four years of close early work.

This cause produced the necessity for these borders, purposely to relieve permanently planted vines, and save them from the ruinous effects of being forced so early as to have their fruit ripe in March. In Shaw's houses, they were generally built in compartments, so that crops may succeed one another; but it was never supposed for a moment that any practical gardener would attempt to grow in these big pot borders the same vines for a series of years, and expect to have fruit superior to that grown in large open borders influenced by the action of the sun and external atmosphere! For *very early* forcing, we would make the border entirely inside of the house, from two to three feet deep, when it will be found that the heat of the atmosphere of the house will warm such a border all that is really needed, and the only way that nature has directed us to heat borders. All suspended borders—all borders with a heating apparatus at the bottom of them, are systems opposed to nature calculated to do more harm than good, and will in the end prove destructive to the character of their advocates and the vines as well.

[Mr. Bright's chief mistake consisted in pushing a theory quite too far; but since he has acknowledged his errors, it is just as well that they should be buried with the past. The only really valuable inside border for general use is that indicated by Fox Meadow; namely, a border some three feet deep, *occupying the whole interior of the house.* Such borders we have made and used, and know them to be valuable, especially for early grapes. In skillful hands they work admirably. In regard to Mr. Chorlton, we fear he has "clean gone dead," at least so far as the horticultural world is concerned. He attained to an eminent place in his profession, and was a useful man in his day and generation.—ED.]

ORCHARD CULTURE.

BY P. G. BERTOLET, OLEY, BERKS CO., PENN.

IN your December number occur some editorial remarks recommending the raising of crops in orchards, etc., which we can not pass quite unnoticed. It was our impression that this practice had long ago been exploded by good pomologists.

The raising of ANY crop in orchards will and must abstract vegetative nourishment

from the soil; and where this is rich and deep, it needs no enriching by root culture or any cultivation of any crops; and when the soil is shallow, it is equally absurd, because the *root* culture won't pay in poor soil, and the disturbance of the soil and extraction of nourishment in moisture and aliment, is, to say the best, very bad philosophy in fruit culture. It is disturbing the tree's main "base of supplies;" for it is in the top soil you find the small, innumerable rootlets that are, and give life, vigor, and health to the trees; disturb these, or interfere with these in any way by other crops, and you are attempting a thing contrary to our school-boy principles of philosophy, of putting two things in one space. Just as absurd it is to attempt to raise or plant any thing where you plant a fruit-tree. Let that space be that tree's, and nothing else. You must know that the best grape grower will not even allow a strawberry stalk to grow under his vine; and why? because he fears that some of the elements needed by the vine to produce perfect fruit might be carried out of the soil by the strawberry, and thus deprive or rob the vine of some of its necessary and legitimate elements.

Nothing can be done worse than plowing orchards in this vicinity. It is sure to cripple if not kill the trees, just as sure as a "raking fire" of cannon will destroy a body of infantry. Plowing and deep digging about trees interferes with the rootlets. The rays of the sun are just as essential to the rootlets of a fruit tree, as to its foliage. It is by this change of eliminative power that the real improvement of plants is effected. It is here, as in the human system, many diseases are seated in the eliminative organs. Now where cropping is done, this is interfered with.

We must first have the proper elements eliminated before they can be transformed into Bartletts and Newtowns. If this physiological function is imperfectly performed, the fruit will be imperfect, no matter what the grafts may be. We are aware, also, of the important office of solar light in this respect. It has just as much to do in perfecting the growth of the apple as the tuber of the potato. The potato, tomato, and egg-plant, are all individuals of the poisonous Selonacea. Yet these lose all their poisonous properties under proper cultivation, by the influence of light. If this be so, why should we not expect similar influences on our fruit trees? What is the apple in its natural state? It is improved by improving its eliminative powers. It is upon this principle that the florist secures his double blossoms. It is by this that the *crab apple* is changed into the beautiful Pippin. The influence of light is too much lost sight of by pomologists. In the human system pathologists call the impaired eliminative functions dyspepsia; in the other we would suggest the term of *cripple-tree*, for fruit trees may become dyspeptic as well as other things, from overfeeding as well as from a lack, resulting in marasmus, which becomes so apparent in the sickly and stunted appearance of the trees. It is a cause of premature old age and death in trees as well as man.

Some urge the plowing of orchards while young. It is equally injurious. If you plow you keep the top soil loose and separated from the roots, thus cutting off this part of its base of supplies. Besides, trees thus treated are more likely to be blown over or stand inclining S. E., at an angle of of 45°, all in consequence of plowing. We will say nothing of other local injuries generally inflicted, more or less, by the most careful and expert workmen, in the shape of "barking," rubbing, and skinning the young trees.

Plowing orchards won't pay. If you can't afford to have an orchard without cultivating poor stunted crops and sickening the trees, we would advise you, remove the trees, and you have a clear piece of land, and nothing to interfere with your operations. You ought to be satisfied with the produce of a good orchard. There is a sin of being too greedy. No man likes to do physically double duty? Why, then, ask your acre devoted to fruit to do double

duty? It is preposterous. One or the other will and must be short of perfection.

Root cropping has other bad effects upon the fruit. August is the month in which the apple makes its main growth. This is the dry month. Vegetables extract much moisture, and just so much sap from your Baldwins and Newtown Pippins, these remaining smaller and dryer in consequence. The fruit, during these hot days, is also more apt to drop; the tree casts part of its fruit for want of "drink." And all this is made worse; for when you want to cultivate under the trees you must "trim them up high," so that you can get through under them with horses. Now, when the trunks of apple-trees are high and exposed to the scorching rays of the August sun, it heats the sap, and gives the fruit a sickly appearance, and does never arrive at that perfection as when the tree is left to indulge in at least some of the more natural forms of growth. We never train our trees high. The storm has less effect, the rays of the sun will not lay on its trunk, and the fruit produced is fairer.

We preserve the thrift of our orchard by fertilizing the soil every four years with lime spread on the sward in the fall, and mulching with barn-yard manure in spring. We prefer this on account of the ravages of mice if done in fall.

The foregoing is respectfully yours. If worth any thing, well and good; if not, we are again satisfied.

P.S.—I prefer to inhabit my house alone with mine; I even don't like rats and mice to consume the contents of my larder. A fruit tree, which ministers so much to the comforts of man, should be equally lord of the spot planted on, and not encroached upon in having its larder in the ground consumed by "root crops."

[Very good; but you see, Mr. Bertolet, you have been somewhat hasty in your conclusions. We do not recommend crops to be grown in orchards. We have stated, we do not know how many times, that an orchard should be given up exclusively to the trees grown in it. We have, however, recommended certain kinds of crops to be grown, and others avoided, by those who *will* grow something besides trees in their orchards. We do this on the principle, that if a man will not let us do him *all* the good we can, we will do him the most that he will let us. We have been about a good deal among men who own orchards, and we have found it very difficult to convince even a few of them that an orchard should be an orchard, and nothing else. Now it is not in us to turn from a man in disgust because he does not think precisely as we do, or fail to be convinced at once by our argument. We keep our object steadily in view, and if he will not march directly up to it, we lead him around by some pleasant but sure by-path. We repeat, that we would give up an orchard wholly to the trees growing in it, even to the exclusion of your sward; we would not have even that rat in our larder. If root crops are robbers, so is your sward in a smaller way; and it keeps out the beneficent sunlight you so justly praise. In regard to young orchards, we always cultivate them, and recommend their cultivation, because we can make better trees in this way than we can in any other that we have tried or seen tried. Both "fact and philosophy," moreover, favor it. Be pleased to understand, however, that cultivating an orchard does not mean growing other crops in it, as many seem to think. When we *cultivate* corn and potatoes we do not grow other crops among them, except it may be sometimes a few pumpkins and squashes, to the detriment, often, of the corn and potatoes. You must not understand us, again, that ground can not be profitably *double cropped* with some things; for there are hundreds of skillful market gardeners who would at once convince us, beyond all gainsaying, that it *can*. But then, still again, there is a marked difference between plants that permanently occupy the soil with their roots and those that perfect themselves in a short season. So you see the subject must be looked at broadly

to comprehend it fully. You will find our views on orchard culture briefly stated elsewhere in this number. We are always pleased to hear from you.—Ed.]

THE HORTICULTURIST.

BY WILLIAM BACON, RICHMOND, MASS.

From the commencement of this journal we have been a constant reader of it. The whole work up to this time, has a place in our library, and, to speak our own views of the work, it is a library of itself, and one that ought to have a place in every household, where a garden spot is attached, throughout the land. How far its influence has extended in bringing about a new state of things in the improvement of grounds about homesteads, in introducing among the people greater varieties and better fruits, and more beautiful flowers, we know not. But this we do know. It has ever been a reliable work; one that must meet the full approbation of practical men. Let prejudice call it book farming or book gardening, or both. Be it so. It is the record of practical observing men, gathered in from various and remote sections, and from every one of its contributions information enough may be drawn—sound practical knowledge too—to pay for the work.

We take, for instance, the Editorial articles on Grapes, and in doing it, we have no inkling to flatter the editor, (he must not read this.) We have read every one of them with careful attention, and have to some extent practiced on the teachings, and we consider each number of these worth more than the number of the paper containing them, to any one who would grow a vine; they are so understandable and so practical in their character.

Then, there are the remarks on laying out grounds. By-the-by, what changes have taken place and are in progress in the matter of grounds around dwellings. Many can remember the time, when almost every dwelling in rural districts was set a few feet from the highway, and those few feet, if not left open with the public path, were inclosed in a yard just so many feet one way, and with dimensions bounded with the width or length of the house the other. Even these small patches, which were sure to be occupied as calf-pens or for horse-baiting, were almost considered a waste of land. A very mistaken policy, and as far removed from economy as it is from the comfort of the occupants of the house. This error, it has been an object of the Horticulturist to obviate, by giving plans of grounds, and showing how they may be appropriated in good taste, with regard to comfort and convenience, and yet without pecuniary loss. How far the Horticulturist has contributed to bring about this pleasant change, can not be known. Its workings may be out of sight. For instance, a subscriber (all should subscribe) to it, gets ideas from its pages, and carries them out on his premises. His neighbor sees the improvement, and not willing to be outdone, sets about a similar improvement. It may be he borrows his neighbor's paper, as he does his ideas, and gets a plan therefrom. And so the work has gone on until our country has really, in many instances, become enriched and beautified.

Another feature that gives specific value to the Horticulturist is, the designs of buildings, which have liberally been given in the work from the commencement. These may seem so many useless appendages, or at best but pretty pictures to some. But dwelling houses and churches are to be built as long as the world stands. Men and women will cheerfully pay their money for these objects; but as the world moves on and the public taste becomes refined, it is seen that money alone does not erect buildings to meet the requirements of the age. There must be an investment of mind as well as money. So, then, mind must be cultivated while money is accumulating to effect the object correctly.

The readers of the Horticulturist have

these lessons that teach mind repeatedly and beautifully opened before them. In the whole work, we find plans of rural homes adapted to the necessities, circumstances, comfort, and convenience of every class of readers, adapted to all localities. What a beautiful feature in the work! one that is of itself sufficient to commend it to every one.

With most people, the building of a house is a thing that does not occur more than once in a lifetime. This should be so built as to last generations. Of course, the plan, finish, and location should be thoroughly studied, before the first move is made in collecting materials.

We have witnessed a great error in this matter of building without taste the last season. A farmer of our acquaintance, with a beautiful location, and one that is under the eyes of travelers on an extensive thoroughfare, set about to build a house. The house was built, just about 18 by 30 feet, two stories high, with a piazza in front, fully equal to half of the width of the house; on each end are two windows, one directly over the other. The reader can judge of the *look* of that house. Still, there was money enough expended to have given the same amount of room, and made a tasteful, home-like building. We do not say, but that one is so to the owner, but if so, his taste shows great lack of culture. The house is no ornament to the town or the ground on which it stands. No man who reads the HORTICULTURIST would have built such a house.

We have named a *few* of the advantages of reading the HORTICULTURIST and similar works. There are *many* more that might be introduced, but we must close by commending it to universal patronage.

[We do not like to say more, and we can not say less, than that we thank you most heartily for your generous appreciation of the HORTICULTURIST. Such words of kind cheer lighten our labor wonderfully, and strengthen our determination to make the world better, if we can, if it be by ever so little. We have much cause to be grateful for kind words from scores of friends, not one of which will ever be forgotten.—ED.]

HINTS ON PEAR CULTURE.—III.

BY THE EDITOR.

As these pear articles are to be mainly "Hints," we shall endeavor to get over the ground as rapidly as possible, pausing at particular points only with a view to the reader's profit. Before proceeding to the preparation of the soil, something may well be said about shelter. In building a house, shelter from cold winds is one of the first things thought of by a sensible man; but, strangely enough, this same man will plant an orchard or a vineyard without a thought of shelter entering his head. We might not feel at liberty to impeach his character as a sensible man, but we should be very far from calling him a thoughtful one. The error here consists in a want of knowledge of the requirements of the case. Men too generally conclude, that because a tree is not a sensitive being, made up of flesh and blood, it requires no protection from the winter's blast or the vicissitudes of climate. This is not only an error, but in many cases a fatal one, so far at least as respects the fruitfulness of the tree, if not its life itself. The truth is, a tree is a living thing, of a wonderful and complex structure, and subject to the laws of life. Some kinds of fruit trees, indeed, are so sensitive to shelter, that without it they refuse to yield their best fruits. Like the domestic animals of the farm, they may continue to exist under almost all the vicissitudes of exposure, but they become scraggy, stunted, diseased, and barren of all good results. It may be received as an axiom, therefore, that all fruit-producing plants are benefited by shelter, and it should consequently be given wherever it is possible to do so. We could

fill many pages with illustrations of this point, in connection with the physiological laws which govern it. The simple truth is, that the subject of shelter has received quite too little attention, while it is yearly becoming a matter of greater necessity, not from any increase in the severity of our climate, but because many of the modes of producing and perpetuating fruit-bearing and other plants has a direct tendency to debilitate them constitutionally. Every man, therefore, who makes an orchard or a garden, should provide for it some suitable shelter, if the situation does not already furnish it.

Protection is needed from the prevalent cold winds, which come from the north, northeast, and northwest. These are the points, therefore, where shelter should be placed. It should consist of a hedge or a belt of trees. These may be either deciduous or evergreen, or both; but some hardy evergreen, like the Norway Spruce, Scotch Pine, or Hemlock, makes very much the best screen. Great height is less needed than a compact growth; the trees should therefore be planted close together, a distance of from four to six feet being quite sufficient. The trees may be planted in rows two or three deep, or, if evergreens, in a single row to form a hedge, and treated as such. In the absence of trees, a high, open board fence has been found to answer the purpose very well.

As we propose to treat of the pear in the garden as well as the orchard, we add a few words about shelter for the former. The points to be sheltered are of course the same in both. A fence makes a good shelter for the garden; but a much better one, as well as much more ornamental, is a hedge of Arbor Vitæ, Hemlock, or Norway Spruce, kept nicely clipped. The Arbor Vitæ may be planted from twelve to eighteen inches apart, and the Hemlock and Norway from two to three feet.

A hedge or belt of timber should not be too near fruit trees; it should be so far off as not to have the roots encroach on the orchard or the trees in the garden. A closely planted hedge in the garden should be not less than ten feet from the trees, while that in the orchard may be twenty or more, unless the orchard is devoted exclusively to Dwarf Pears, in which case it may be nearer. The reason for the difference in the two cases consists in the fact, that in the orchard a larger area is to be protected, and the trees must therefore be planted wider apart and trained higher; the roots will consequently spread further and need more room. In addition to this, there is a kind of "instinct" in the roots of trees which leads them to run quickly from a poor to a good soil; and this they will do over a very considerable distance without making scarcely a fibre till the good soil is reached, when they ramify rapidly. The inference from this is, that the soil where the hedge or belt is made should be as well prepared as that of the orchard itself. The extent and form of the hedge must, in a measure, be governed by local circumstances. It will, of course, be understood that where a natural wood is sufficiently near to afford the needed shelter, no other is needed. A piece of woodland two or three hundred feet off will often answer the purpose perfectly. Each one must judge of this for himself, bearing in mind the importance of the object to be accomplished.

Where an orchard or a garden is suitably sheltered, it is much less liable to feel the sudden changes so common in the spring and fall; indeed, it is almost free from them. Turning away the cold northerly winds preserves a more equable temperature, not only in the soil, but in the atmosphere immediately surrounding it and the trees; these consequently enjoy a great degree of immunity from diseases and other casualties, many of which may be traced directly to want of shelter. Shelter, indeed, inasmuch as it checks the radiation of heat from the earth's surface, does to this extent prolong the season; a matter of much importance. It is also a great security against early and late frosts. Shelter is the great desideratum in fruit culture at the West, unless we

are much mistaken. The many advantages of shelter will appear from time to time during the progress of these "Hints," and need not be dwelt upon further at present. We may add, however, that an orchard should not be surrounded with trees to such an extent as to interfere with the circulation of the air. A still, stagnant atmosphere is prejudicial to the health of the trees. The good sense of most readers will prevent them from running into this extreme.

In regard to aspect, one facing the southeast we consider the best. The other points of the compass, in the order of desirableness, are as follows: south, east, southwest, west. Northern exposures are the least desirable of all. There are localities, however, where northeastern and northwestern exposures may be selected. In such a wide range of country as ours, we can only speak of aspect and exposure in general terms. Thus, we may select a good aspect any where from southeast to southwest, though our own experience and observation point decidedly to southeast. There are sometimes local circumstances, however, which would make a western exposure preferable to an eastern one. It is a subject which must be decided on the spot, and according to circumstances, always, however, with a preference for a southeastern exposure, where it can be had as well as not.

LEAF-MOULD, MUCK, AND CHARCOAL IN VINE BORDERS.

BY WM. BRIGHT, PHILADELPHIA.

The only question of interest to the public, in our recent discussion with "Fox Meadow," on the subject of Leaf-Mould, Muck, and Charcoal in Vine Borders, is this: Is there danger in the use of such materials?

Fox Meadow dodges the issue, by denying that he recommended leaf-mould for vine borders. "Where," he asks, "have we recommended the use of large quantities of leaf-mould?"

We answer, in the Horticulturist for October last, page 455, where, after speaking favorably of charcoal as a useful form of carbon in the border, he adds:

"Any carbonaceous matter, then, placed with the sand in question, will answer the same purpose as pure charcoal. * * * * There are several kinds of material which will answer this purpose—the common soil—*Leaf-Mould*—but *perhaps* the best of all is muck."

Again, in the November number of the Horticulturist, page 510, Fox Meadow says:

"I have now given the reader the materials of which we compose *our* vine borders. Some may wish to grow grapes who have not the muck spoken of, and in such case substitute *Leaf-Mould;* and if the latter can not be had, get the wanting proportion in the form of moderately fine charcoal."

If this is not an explicit recommendation of Leaf-Mould as a suitable material for the grape border, then we are unable to read or comprehend the English language.

But we have something further. We think we can show that, in the light of recent scientific investigations and experience, muck and charcoal are also dangerous ingredients of a vine border—quite as dangerous as leaf-mould.

The word "Muck," as originally applied, meant simply *dung.* Webster defines it thus: "*Muck*—Dung in a moist state, or a mass of decaying or putrefied vegetable matter." As employed in this discussion, it is intended to represent the peaty soil found in swamps, composed of the remains of decayed and decaying vegetation, leaves, sticks, grasses, rushes, etc., a sort of *wet leaf-mould* combined with earthy matter.

"Muck," says Fox Meadow, "when lying in immense quantities in swamps, is decomposed vegetable matter with the partial *exclu-*

sion of air." Let us see what the agricultural chemists say about such muck as this.

Dr. Thomas Anderson, Professor of Chemistry in the University of Glasgow, in his admirable work, the Elements of Agricultural Chemistry, published by Messrs. Black, Edinburgh, 1860, (an authority scarcely inferior to Voelcker, Lawes, Gilbert, or Leibig,) at page 135, says: "The decay of vegetable matter, *without access of air*, is attended by the reduction of peroxide of iron to the state of protoxide, and not unfrequently by the production of *sulphuret of iron compounds*, which are *extremely prejudicial to vegetation.*" This poisonous sulphuret of iron is very abundant in some muck, and is but slightly affected by exposure to the air for one winter, as directed by Fox Meadow, especially if the muck be wet.

D. J. Browne, in his "American Muck Book," published by C. M. Saxton, New York, thus describes the component parts of swamp muck, page 208: "Dead leaves, rotten trunks, and the branches and seeds of trees, enter into the composition of a peat swamp. Trees of considerable size have frequently been found in the bottom of peat mosses. The sulphates of iron and alumina are also not unfrequently present in excess, and exert a baneful influence on plants."

We quote again Browne's Muck Book, page 209. "The acidity of muck," he says, "is often so great, that stones taken from boggy land have every trace of matter that acid can attack, dissolved; in a piece of *granite*, for instance, the mica and feldspar have disappeared, and there will only be left a *silicious skeleton* of a stone!"

So, then, in muck we find dead leaves, rotten wood, strong acids, and poisonous sulphate of iron; materials quite as favorable to the growth of fungi as leaf-mould, and more injurious to vegetation, (unless chemically changed,) in consequence of the powerful acids and injurious salts of iron which it contains.

Now for the *Charcoal.* Some persons think that charred leaf-mould or charred wood will not produce fungi. In opposition to this opinion, we have the following striking facts, in a leading article in the London *Gardener's Chronicle*, under the editorial direction of Professor Lindley, the most distinguished vegetable physiologist of the age, of a date as late as the 10th of January, 1863:

"Not only is it notorious that ground where charcoal has been prepared, or where sticks have been burnt, is constantly productive of Fungi, as different species of Agaricus and Peziza, or the far-famed Morell, but charred wood, both in temperate and tropical regions, is peculiarly subject to the growth of Polypori and other wood-borne Fungi. This is a fact well known to every one who has paid attention to exotic species. The most common of all, the beautiful vermilion colored *Polyporus sanguineus*, very frequently grows on charred trees, and the same may be said of many other species. But we are not without examples in our own country. Old Oaks, dating at least from the time of King John, which have never shown a trace of a Fungus, except such species as affect the bark and not the wood, if accidentally burnt, produce on the charred surface an abundant crop of the very Fungi which occur in such profusion in our dockyards on badly seasoned timber."

If the scientific positions presented above are sound and correct, it is no conclusive argument against them to say, in reply, that vines have been grown in borders containing muck, leaf-mould, and charcoal, or either of them, without apparent injury. The truth is, the art of making vine borders has puzzled and confounded the wisest heads. We have seen vines fail and go to ruin in pure, simple loam and sand, open and porous; and we have seen them thrive luxuriantly in a border as hard as the bed of a turnpike, full of earth-worms, and "chuckelly" (as gardeners say) as a piece of clay dug in wet weather, and sun-dried into boulders. We have seen exactly opposite results in the case of two vines, standing side by side in the same border, and treated in every respect precisely alike: one vine making a fine, strong, healthy growth, and the other, after it had been vigorous and healthy for years,

going to decay most mysteriously without any evident cause. We shall probably never know all the causes and conditions which produce these diverse results; but we must act, as best we can, with all the light that science and experience can afford us; and if we feel convinced that any substances like leaf-mould, muck, or charcoal, in the border, will breed fungi, or poison the roots of the vines, it is the part of wisdom to avoid them.

We have recently taken out of a large vinery, belonging to a gentleman in this city, a border composed of sand, loam, leaf-mould, and charcoal, the soil being in apparently the best possible condition, and yet the roots of nearly all the vines (only three years planted) were rotten and cankered past all hope. What was the precise cause of this condition of the roots, we are unable to say; but we have for some time been very suspicious of leaf-mould and other carbonaceous matters, and nearly two years ago resolved to avoid the use of such materials in our grape borders, and published the fact in our work on grape-culture in the spring of 1861.

The sarcasms and innuendoes in which Fox Meadow indulges in relation to the supposed errors and inconsistencies in our *former* writings, we pass by "as the idle wind." We did not enter upon the discussion of the qualities of leaf-mould with the intention of quarreling with him; nor shall we suffer our equanimity to be disturbed by any thing he may say intended to be personally offensive. As to our errors in grape culture, we have honestly and fully stated them in another journal. (See "the Confession of William Bright, grape-grower, who humbly acknowledgeth his errors," in the *Gardener's Monthly* for January, 1863.) Fox Meadow has also, we think, fallen into an error in border-making, and all we desire is, to see him "own up," in a candid and manly way, (*i. e.*, honestly "imbibe the wormwood,") and place himself *along with us*—with a meek and contrite spirit, and a fraternal feeling for his fallible friend—on that inelegant but useful piece of architecture, the public penitential stool; but if, through hardness of heart, or other causes, he refuse to be just to himself and the public, he should at least be magnanimous, and not, with unsavory missiles, pelt the poor Pilgrim now in the pillory.

[We leave this controversy in the hands of Fox Meadow and Mr. Bright. The reader must be pretty familiar with our own views on the use of muck, charcoal, etc. We make no comment, because in this instance we prefer to leave each party to his own knowledge and ingenuity, which we think will result in the development of a greater number of facts. The importance of the subject can not well be overrated.—Ed.]

ORCHARD CULTURE.

BY THE EDITOR.

We promised in our last issue to give a summary of our views in regard to orchard culture. We do this in order that our readers may understand distinctly our convictions on this subject, and to prevent, if possible, any further misapprehension on the part of some of our cotemporaries. We wish to state, also, that these convictions are the result of personal experience, and are not based on any traditions whatever, and will always be as boldly avowed and defended as we deem consistent with modesty. We leave others to express their convictions in their own way. Fortunately or unfortunately, we do not belong to that class of men who delight in loud words; but our convictions are none the less strong and decided "for a' that."

But to our "articles of faith" in orchard culture.

1. We believe in selecting a good site.

2. We believe in a most thorough preparation of the soil.

3. We believe in enriching the soil according to its wants.

4. We believe it is better to have the soil too rich than too poor.

5. We believe in muck, as applied to the orchard.

6. We believe in leaf-mould, as applied to the orchard.

7. We believe in carbonaceous matter generally, as applied to the orchard.

8. We believe in shelter for orchards.

9. We believe in planting none but good trees.

10. We believe in planting trees not more than two or three years old, if bought at the nursery.

11. We believe in "setting" said trees after the most careful and approved manner.

12. We believe in pruning and training said trees.

13. We believe in setting the branches low down on the trunks.

14. We believe in keeping those branches and trunks free from moss, caterpillars, and all other pests.

15. We believe in cultivating orchards.

16. We believe it to be a great fallacy to suppose that cultivating an orchard means to grow crops in it.

17. We believe the perfection of orchard culture consists in giving up the soil exclusively to the trees.

18. We therefore believe in excluding all grass, corn, grain, roots, weeds, cattle, mice, borers, and every "unclean thing."

19. We believe that orchard trees may sometimes be profitably root pruned.

20. We believe that this should not be done "promiscuously" with the plow.

21. We believe that orchards may be cultivated without injuring the roots of the trees.

22. We believe that orchard trees may be planted in too rich a soil, and make too rank a growth, thereby becoming unfruitful, and also liable to "winter-killing," and other ills.

23. We believe in checking this redundancy of growth.

24. We believe this may be done in various ways, such as summer pruning, root pruning, laying down to grass, growing crops, etc.

25. We believe that summer pruning and root pruning are the most direct, certain, and satisfactory modes of accomplishing the end proposed.

26. We believe that no manure should be used with crops when the object is to check growth.

27. We believe that manure should be used in all other cases when crops are grown in orchards.

28. We believe that grass robs the trees of nourishment very little if any less than some root crops.

29. We believe that an orchard in grass suffers much more in time of drought than one well cultivated.

30. We believe that orchards laid down to grass, and kept so, should be top dressed from time to time.

31. We believe that orchards should be top dressed whether laid down to grass or not.

32. We believe that lime, ashes, ground *raw* bones, composts of muck, etc., are capital top dressings.

33. We believe that orchards laid down to grass should be plowed up at the first signs of "giving out."

34. We believe that old and decaying orchards in grass may often be renovated and made good by manure and cultivation.

35. We believe that we have renovated more than "several" such.

36. We believe that a cultivated orchard yields fairer and better fruit than one not cultivated.

37. We believe that a cultivated orchard is more profitable than one not cultivated.

38. We believe it is a great mistake to except fruit trees from the universally recognized laws of cultivation.

39. We believe that these "articles of belief" are full of sound doctrine.

Having reached the full standard of

"Thirty-nine Articles," we think we may rest for the present. Like a good and faithful pomologist, we shall defend *our* "Thirty-nine Articles" against all gainsayers.

ROGERS'S HYBRID GRAPES.

BY VINITOR, BOSTON, MASS.

In the January number of the Horticulturist for 1862 was an engraving, with some account of Rogers's Hybrid, No. 15, in Mr. Farrington's garden at Salem. This year our visits there were renewed, and our opinion of its value fully confirmed. The judgment of the Horticulturist, and *Gardener's Monthly* for November, on specimens sent by Mr. Rogers, accord somewhat with our own, except as to toughness of pulp; no grape in this, or Mr. Rogers's garden, was free therefrom, not even the pure Delaware, Creveling, Rebecca, Diana, or Concord; (last season, neither had any, to speak of;) the flavor, as in all other fruits, was very inferior; notwithstanding, that of No. 15, to our taste, was highest here. Had you compared fine ripened bunches of those choice varieties shown us by Mr. R., grown only so few degrees south as Connecticut, doubtless you would have been surprised at the difference locality or season makes in the products of the vine.

In both gardens, No. 15 appeared remarkably free from mildew; in Mr. H.'s, there was rot in a few berries, here and there on a few bunches; comparatively none with a large Concord, a few feet in front; while in Mr. R.'s garden it was about the same. In concluding on this number, at the Agricultural exhibition of Essex county, at Rowley, this fall, Mr. H. received the premium for this fruit, over all the above kinds; three years ago, there, it was reported to be of higher vinous flavor than the "Old Catawba." And at the National Pomological Convention, at Boston, opinions were expressed of its fine indications for wine purposes.

It may not be uninteresting to those trying these hybrids, to describe five other kinds more tested by Mr. R., and elsewhere, viz.: 4, 19, 33, 3, and 1. But we would premise a few remarks. Having seen in some magazine, that as these only were exhibited, they were probably the only ones fit for cultivation; and also another vague idea thrown out, that they were running back to their foreign parents; on inquiry, it was ascertained, that before fruiting, Mr. R. was obliged to transplant from his crowded row of 45, some 25 into another, retarding their fruit two years, all of which ready for trial, two seasons after, was stolen. The following winter killed almost every vine, including native, to the ground; all again bore last season, many deemed equally good as the other six; and when sufficiently tested, will be duly noticed.

It is well to observe, that this experiment was undertaken with no money-making views; but merely as a matter of scientific study and amusement, in an old family garden, (too long cultivated to produce any thing showy,) without the accessories of nurserymen's hothouses or labor. Mr. R. has only been enabled to carry it on by generously publishing the minutiæ of the operation in the liberal pages of the Horticulturist; and scattering, thus early, his young plants and cuttings over the country. And the whole thing, for a long time, must have been smothered, or turned to selfish purposes, unless for this, and the encouragement of Colonel Wilder, with a few others appreciating the results to flow from this sole precursor of numberless experiments. Whether or not any thing here is valuable, as a consequence, in a few years, our vineyards, in quality and variety, will rival the European.

To resume a description of the other sorts: No. 4, perhaps, may be considered the success of this experiment, having been well tested in Mr. R.'s garden, three or four years past, on a dozen young vines. It seems neither so vigorous nor as great a grower as 15, 19, or 33, but like a thrifty Isabella; of more foreign foliage, and darker wood, than 15. Mr. Garber, of Pennsylvania, however, states,

out of fifteen of these different kinds grafted in May, that, before the end of the summer, No. 4 on eight canes had made 96 feet of wood, outstripping the rest, ranging from four feet upwards to this amount. The fruit on all these vines presents a uniformity of profuse bearing, of heavy, compact bunches, here and there with heavy shoulders, like a crop of Black Hamburghs under glass. Ripe, here, with the Concord; flavor rich, vinous, sweet, without aroma; skin thinner than 15; no pulp when ripe; keeps well. Its imperfection, here, is liability to be overtaken by early closing seasons, like the Concord and others, leaving partially unripe clusters. Free from mildew of berry and foliage, it drops no berries from rot, or other cause, (unlike the Catawba, Concord, Diana, etc.,) claiming, the same as the little Delaware, this chief merit for vineyard culture. Many of these hybrids were fruited last year by Mr. Campbell, of Delaware, Ohio; and, though not considering No. 4 so high flavored as 15, 33, or 19, he pronounces it the grape of the lot, owing to its great size, good quality, profuse bearing, and particularly this exemption from oidium of leaf or berry; growing it mainly for the wood, nevertheless, he says it was large, and much resembled Black Hamburghs. The Cincinnati Horticultural Society report it, "the best black seedling" which has come before them. Without knowledge of this, Dr. Parker, of Ithaca, N. Y., scientifically acquainted with the vine, requesting some specimens for trial, with four other gentlemen of New York, largely interested in grape culture, decided four out of five better than the Isabella, in pulp, skin, and every particular; among them, No. 4, not, in his opinion, of so high flavor as 15, and some others, he judged to be the "great market grape," 200 miles south and west of Massachusetts. Coinciding, generally, with this, another gentleman of eminent science, speaks of it as deserving the appellation of the American Black Hamburgh. Concluding on No. 4, reference may be made to the engraving of a common sized bunch, in the last May number of the HORTICULTURIST.

No. 19, very hardy, a great grower, and good bearer; foliage and wood more native, and longer jointed than 4; color of wood and fruit, about the same; quite free from mildew. Fruit, bunch medium, size of berries large as No. 4, both rounder shaped; flavor higher, and more vinous; skin thicker than 4, slightly tinged red inside; no pulp, when ripe; earlier than 15 or 4; keeps well in winter. Has ripened its whole crop here, on many vines, every season; the most certain of the six; reported by the Essex County Agricultural Society, three years ago, "superior to the Concord." It drops no berries from rot, (or in gathering, as none do, of all these hybrids,) or any other cause. In unfavorable places, a slight rust sometimes attacks the skin.

No. 33, a great grower and bearer, of equal vigor with 15, wood equally stout, but darker; short-jointed, and full-budded; foliage as luxuriant, and more foreign. Fruit larger than 4 or 15 in berry, though not in bunch; skin thicker, tinged red inside. Quality very fine, rich, sugary, vinous, sweet, with little aroma, of great nutriment; promises a fine port-wine grape. This, by Mr. R., and Mr. C., of Ohio, (who has fruited it,) and others, is deemed of better quality than 4 or 19. Last year, bunch perfect; this, badly affected here by rot. Ripe very early, about same time as 19.

No. 3, a great bearer, more delicate than either in wood and foliage, a rapid grower, resembling the Diana generally, and in color of fruit, with a large, close-set bunch and berry; ripe a week earlier than 15. Flavor rich and pleasant, with more native aroma than the other five; flesh soft, sweet, and "buttery;" a favorite every where. Free from rot or mildew of berry; foliage tender, sometimes, here, in bad seasons; leaves hanging unripe bunches; exhibits, however, a wide difference, some vines being perfect.

No. 1, altogether "sui generis" in appearance and character; wood stout and vigorous, of a whitish hue, and full bud, and short-jointed; foliage peculiar, neither native nor foreign; somewhat of the Rebecca look, though stronger. Fruit, bunch medium, berries oval, large in size, and beautiful as Muscats or Malagas; color nearly white, some seasons; again, almost red or amber. Flavor

pleasant, rich, and highly aromatic; very soft and tender; skin thin; keeps well. This was highly spoken of by the Convention of Grape Growers, two years ago; ripens a little earlier than Isabella. Exempt, here, from rot or mildew; a slight rust sometimes attacks the berries. The color was erroneously stated in one of last year's HORTICULTURISTS.

An impartial notice has been given of these six varieties. Mr. Rogers has, perhaps, a dozen or more equally worthy; and among his new kinds, not yet sent out, some superior to any of the original 45, for parts of our vast grape domain.

The Delaware, though small, is in great estimation; shows, this year, here, a little mildew. The Creveling, when better known, will supersede many others, and should be in every one's collection. Nothing else, very nice, among many new kinds, except the Cassidy, from Mr. Miller, of Pennsylvania. First time fruiting, rather small; berry and foliage rusty.

[We have heretofore expressed no little interest in Mr. Rogers's experiments in hybridizing the grape. From whatever point of view regarded, they deserve public encouragement. Chance seedlings have thus far furnished us nearly all our best grapes, and it yet remains to be seen what greater degree of excellence can be produced by well-directed systematic efforts at crossing. Mr. Rogers, therefore, and all others like him who have the time and inclination, should receive every possible encouragement to persevere in such efforts. If no great degree of good is to result from them, the sooner we know that the better. If, on the contrary, any decided improvement is to result, the sooner we know that also, the better. Much time must necessarily be consumed in all such experiments and they can not be begun too soon.—ED.]

LAWTON OR NEW ROCHELLE BLACKBERRY IN OHIO.

BY A. G. HANFORD, COLUMBUS, OHIO.

THE following will serve to show what this fine fruit is doing here in Ohio, and is an example of good culture which will insure success in most other localities.

Mr. H. Brown, of Norwalk, Ohio, has 100 hills of Lawton Blackberries, occupying 10 square rods, from which he gathered the present season (the third year from planting) 20 bushels of berries, besides those eaten from the bushes by the family and visitors, and the many which remained ungathered. Crop last year about half as much.

The soil is a stiff brick clay, prepared by thorough underdraining and trenching 20 inches deep, and made rich by the addition of manure in the process of trenching. After planting, a heavy mulching of coarse strawy manure was applied.

Second year the stalks were thinned to two to four in a hill, and main shoots shortened to six feet; side branches from six to fifteen inches, according to strength of growth. Stakes seven feet long are driven firmly into the ground, to which the canes are tied with tarred cord, (marline.) The weeds are kept down, but no other culture given after July.

[We should say that Blackberry plantation was done *Brown*. We think keeping the weeds down after July pretty good culture. Very few Blackberries get half as much as that at any time.—ED.]

EDITOR'S TABLE.

To Contributors and Others.—Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

Crowded Again.—We are again compelled to omit much interesting matter. This may be a disappointment to those who sent it, but it is rather a gratification to us, for an editor is always happy when he knows he has something good to fall back on. Our correspondents have done handsomely. Let them continue in well doing, and we shall have matter enough to make up an extra number for our readers. Let them say whether it shall be done.

The Delaware Grape Frontispiece.—The frontispiece of our April number, according to promise, will be a *colored* engraving of the Delaware grape, which is now being executed in the best manner from an original drawing by Mr. Tice, of Newburgh. The bunch was grown in the vineyard of Mr. Mace, of the same place. It will be by far the finest colored illustration of a grape ever published in this country. It will be furnished to *all* subscribers of the present year. Non-subscribers will be furnished at 35 cents per copy, if orders are sent in early.

Our Illustrations.—The reader will not fail to observe that we present an unusual display of illustrations this month, exceeding, in this respect, any former number. Our largely increased circulation this year warrants us in increasing our expenditures, and we feel disposed to do so in the most liberal manner. We omit the frontispiece this month, in order to bring the illustrations and the text together, which enables us to multiply their number. The reader will find this arrangement much more convenient than to be constantly turning back to compare the illustration with the text. We propose to adopt this arrangement when the subject seems to demand it, as we think we can thus render the magazine much more instructive and valuable.

Buchanan's Petunias.—We are indebted to Mr. Isaac Buchanan, of New York, for a lithographic plate of some of his seedling Petunias. It is one of the very best things that we have seen. We saw these Petunias last fall. They are beautifully striped, blotched, and margined, and are by far the most showy Petunias that have come under our observation. They have substance, withal, which is not generally the case with fancy varieties. They are splendid show flowers when bedded. The seeds saved from these plants have, we believe, been placed in the hands of the Messrs. Thorburn. The plants themselves will be sent out by Mr. Buchanan. We are thinking how much we should like to have a bed of them.

Death of Nicholas Longworth.—Still another distinguished horticulturist has passed from among us since our last issue. Reid, Brincklé, Thorburn, and Longworth have quickly followed each other. Mr. Longworth had attained to the ripe age of 81 years. The particulars of his death we have not learned, though we presume he never recovered from the effects of his fall last summer. He was born in Newark, N. J., and went to Cincinnati, Ohio, while still a young man, and accumulated during his life-time an immense

fortune. He was a liberal patron of horticulture, and took an active part in the proceedings of the Cincinnati Horticultural Society. He did more to encourage grape culture than any other man of his day, and he was the first to make for market a good American wine. His vineyards, including those of his tenants, were of vast extent. When the history of grape-culture in the United States shall be written, the labors of Nicholas Longworth will form an important part of it. His interest in Strawberries was scarcely less than that he felt in grapes. The part he took in originating the long controversy on the sexual character of the Strawberry will not soon be forgotten. Longworth's Prolific, McAvoy's Superior, and other well-known kinds, were raised on his estates. It is not possible to give even an outline of his labors in a brief notice like this. While Mr. Longworth's great wealth gave him a commanding influence, he was much respected in social life for his personal worth and unobtrusive character. We had known him for many years; and the last article, we think, he wrote for the press was for the HORTICULTURIST under an assumed name. In his death Horticulture has lost a liberal patron indeed.

DEATH OF GRANT THORBURN.—We are called upon to record the decease of this pioneer horticulturist. He died in New Haven, Conn., at the advanced age of eighty-one. Mr. Thorburn was the father of the plant and seed business in the United States. Beginning with the sale of a single Geranium, he built up the largest business in the country, which is still continued by his grandsons. We remember very well, when quite a boy, going to his store in Liberty Street, to buy our first Hyacinths; and we remember, too, that before we left, his son George (a man of a noble heart) gave us more bulbs than we had bought, and our boyish heart was made exceeding glad. Mr. Thorburn's life was full of incidents. These we may weave into a more extended notice. He was most deeply imbued with a love of flowers, and of Him who made them. We have often witnessed his delight over a stand of flowers, which seemed to us pure and simple as a child's. His character was somewhat eccentric, yet he was earnest, benevolent, upright, with enlarged views of life and its duties. His death was sudden, but he was not unprepared for it, and met his end full of a Christian's hope.

BOOKS, CATALOGUES, ETC., RECEIVED.

Lewis Ellsworth & Co., Naperville, Ill.—Du Page County Nurseries. Wholesale Catalogue for Spring of 1863.

Hubbard & Davis, Fort Street, Detroit, Michigan.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants.

George Baker, Toledo, Ohio.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c.

J. M. Thorburn & Co., 15 John Street, New York.—Descriptive Catalogue of Vegetable and Agricultural Seeds, &c., embracing every standard and improved variety; also, selected novelties.

Edgar Sanders, P. O. box 4,183, Chicago, Ill.—Sixth Annual Catalogue of Plants, &c., cultivated and for sale at the Lake View Flower Gardens.

A. R. Whitney, Franklin Grove, Lee County, Ill.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, cultivated and for sale at the Franklin Grove Garden and Nursery.

Peter Henderson, Jersey City, N. J.—Spring Catalogue of New Plants, Dahlias, Verbenas, Petunias, Fuchsias, Roses, Chrysanthemums, Phloxes, Geraniums, &c.

American Pomological Society.—Catalogue of Fruits for cultivation in the United States and Canadas.

Alfred Bridgeman, 876 Broadway, New York.—Descriptive Catalogue of Flower Seeds, with practical Directions for their Culture and Treatment.

Alfred Bridgeman, 876 Broadway, New York.—Descriptive Catalogue of Vegetable Seeds, &c. We notice in this catalogue an improvement in the way of giving the synonyms of vegetables, which ought to prevent people from buying the same thing under different names.

CORRESPONDENCE.

GENTS.,—I have 140 Grape-vines in bearing—say 100 Isabellas and 40 Catawbas. Being anxious to have a better assortment, I have prepared the ground for 150 additional vines of other varieties, which I propose to plant in the spring. I have a strong preference for Delawares, but before deciding positively, I should like to have your valuable suggestions. Will you do me the favor to name the kinds you would recommend *for this latitude*, and the proportion in which you would select the 150 vines.

My rows are 8 feet apart. Is the distance of 6 feet apart in the rows sufficient for any kind of vine?

If you can reply to this in the March number, you will greatly favor a constant reader and subscriber in BALTIMORE.

Balt., Feb. 4th, 1863.

[We are always glad to oblige you and others to the best of our ability. You do not say whether you want these grapes for your own table or for market, and we therefore make a mixed list for you, as follows: Delaware, 70; Diana, 25, Creveling, 10; Concord, 10; Allen's Hybrid, 10; Herbemont, 5; Rebecca, 5; Cuyahoga, 3; Hartford Prolific, 3; Union Village, 3; Maxatawney, 3; Manhattan, 3. We have put here a few of the less known varieties of good quality, that promise to be valuable in your latitude. The Maxatawney, for example, is a good grape when ripe, and it ought to ripen with you; but around New York it will not mature one year in five outside of a garden. Your preference for the Delaware is well founded, and you can indulge it freely. Whatever you omit from those we name add to the Delaware. You must keep a space, however, for some new grapes not yet out, but which are worthy of a place by the side of the Delaware. We say this understandingly. The distance of six feet between the plants is quite sufficient for any kind of vine. With the rows eight feet apart, as yours are, four feet, or even three, in the rows, will be quite enough for such kinds as Delaware, Rebecca, and some others of close habit. The distances of your vines and rows, however, must be determined in some measure by the system of training you propose to adopt. If you will let us know in regard to that, we will advise you further.—ED.]

MR. EDITOR,—A capital article that on the Gladiolus. We amateurs like articles that have no odor of speculation about them. Will not some one reliable, (say Mr. Parsons,) give us a list of the best twelve Roses, and the twelve next best, according to his judgment. Roses are all superb, magnificent, splendid, distinct, etc., in the catalogues; but after the amateur has included Malmaison, Mrs. Bosanquet, Hermosa, Geant des Batailles, Bougère, Gloire de Dijon, Sydonie, and a few more, he feels uncertain what to select, among the newer ones which are most desirable. Then of Camellias, we need from you a new list of the choicest. So of the Pelargoniums, Phloxes, Dahlias, and Carnations. A list of from twelve to twenty-five of each of the above by some one who is not desirous of advertising would be very valuable.

If, instead of raising so large a variety of very moderately beautiful Annuals, our flower devotees would adopt the suggested lists, with a few others, especially including the new gorgeous Japan Pinks, Hunt's Sweet Williams, Verbenas, Petunias, Snapdragons, Hollyhocks, Asters, Balsams—Hem! That's the way it always goes! It's a good theory, but when a body *loves* flowers, he loves the whole family down to the babies. I often say, Well, next year I'll sow fewer seeds; but the spring comes, and pray tell what shall be spared! *Must* have a bed of Delphiniums, sowed with the Rocket Larkspur for late bloom. Must have a large stock of Scarlet Geraniums to bring out of the cellar and plant for show. Wallflowers actually demand their rights. A bed of Fuchsias

under a lattice overgrown with Clematis; why, that makes a bower for Nausicaa. One can't dispense with an Oriental bed full of tropicals, say, Cannas, Aloes, Gynerium, Tritomas, Ricinus, Reeds, etc. The new Zinnias deserve a good large bed by themselves. And so the Pansies; yes, and new black Pansies by themselves, and the Tropæolums. If any one has a particle of taste, he will have a small bed of sweet Gilia tricolor, and one of Clarkia, and one of Candytuft, and one of Portulaca, and one of Mignonnette, and one of Eschscholtzia, and one of—Whew! Take them all in! You can't spare one of the dear God thoughts and smiles.

But go back again. If you have not *room*, what gives more satisfaction than the wonderful new Phloxes, (the best I have, if raised in dark heavy soil, is Juliette Rousel,) a few choice Carnations, Dahlias, well-selected Roses, Verbenas, Gladiolus—well, I may as well stop at once; for it would be a longer list than before, if I named all that are superb, magnificent, and gorgeous. *And then I have n't one for sale!* Only be sure and put Gladioli next after Roses. If every thing else were n't so beautiful, I would n't have any thing but Gladioli.

Yours, ENTHUSIAST.

[It is not difficult to see that you are an "Enthusiast," imbued with a true love of plants. It is so very natural for such a one to begin with wanting only a few good things, and end with a craving for every thing that grows. We used to be just so; in fact, we are a good deal so still. We will help you with the select lists asked for, and hope Mr. Parsons and others will do the same with plants to which they give special attention. Such lists we believe to be very much wanted. "Dear God thoughts and smiles" is a beautiful idea.—ED.]

MR. MEAD:—*Dear Sir*,—Have any of your readers *succeeded well* with the Rhododendron or Laurel, as far north as Albany? If so, will they please report through the HORTICULTURIST? State whether the Catawbiense variety or the Maximum does best. Give the details of management, and so greatly oblige, AMATEUR.

[We think the varieties of Catawbiense will be found to do well as far north as Albany, and perhaps others. Will some of our readers in that locality answer the queries of Amateur?—ED.]

Fayetteville, N. Y.

MESSRS. MEAD & WOODWARD—*Dear Sirs:* Will you give your readers your views of the merits of the Adirondac Grape, as we are waiting for it with much interest? and as Mr. Bailey promised you a specimen in September, we expect that you are able to decide on its value. I am happy to say that with me it has made an excellent growth.

Can you not speak a word in favor of the Anna Grape? With me it is a good grower, and as hardy, if not the hardiest of vines. It ripens well on open trellis, and in quantity of fruit it crowds close upon the Delaware; and I think if more known, would be more generally cultivated, for it certainly is all Dr. Grant says of it. AMATEUR.

[We received the promised specimens of the Adirondac, and have given our opinion elsewhere in a former number. Please refer to it. To be sure we can say a good word for Anna. It is sufficiently hardy, but does not ripen early enough for general cultivation. When grown in localities where it will ripen, it is an excellent grape. Its quality has not been overestimated. Under proper treatment it bears well. It requires a light, open, sandy soil, with proper shelter; otherwise it is apt to mildew. It is a good grape for the garden, and will reward you for a little extra attention. The ladies, you know, always reward a little extra devotion.—ED.]

THE DELAWARE GRAPE.

From an Original Painting in Oil, Executed Expressly for the Horticulturist.